Exhibit A-1

[redacted]

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

NIPPON SHINYAKU CO., LTD., Plaintiff, v. SAREPTA THERAPEUTICS, INC., Defendant.	C.A. No. 21-1015 (JLH) **DEMAND FOR JURY TRIAL**
SAREPTA THERAPEUTICS, INC. and THE UNIVERSITY OF WESTERN AUSTRALIA, Defendant/Counter-Plaintiffs, v. NIPPON SHINYAKU CO., LTD. and NS PHARMA, INC., Plaintiff/Counter-Defendants.	[redacted]

NS'S MEMORANDUM OF LAW IN SUPPORT OF ITS MOTION FOR PARTIAL SUMMARY JUDGMENT NO. 1 REGARDING INVALIDITY OF CLAIM 1 OF U.S. PATENT NO. 9,994,851

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TABLE OF CONTENTS

Page

I. INTRODUCTION 1

II. NATURE AND STAGE OF THE PROCEEDINGS 1

III. CONCISE STATEMENT OF FACTS 2

IV. THE PARTIES, the PATENT, AND The PRODUCTS 2

V. SUMMARY OF THE ARGUMENT 2

VI. LEGAL STANDARD 3

VII. ARGUMENT 3

A. Claim 1 Is Invalid Due to Lack of Written Description 3

i. Claim 1 Is Directed to a Broad Genus. 4

ii. The Specification Fails to Disclose Any Representative Species Falling Within the Scope of the Claimed Broad Genus. 5

iii. There Are Insufficient Structural Features or Structural Correlation to the Claimed Exon 53-Skipping Function 7

iv. Sarepta's "Hot Spot" Recharacterization Cannot Save the Claim. 9

v. The Field of Exon 53 Skipping AOs Was and Remains Highly Unpredictable. 12

B. Claim 1 Is Invalid Due to Lack of Enablement. 13

i. A Specification's Disclosure Must Be Commensurate in Scope with the Claim to Satisfy the Enablement Requirement. 14

ii. The '851 Patent's Specification at Most Enables Weak Exon 53 Skipping, but Claim 1 Is Broadly Directed to All Levels of Exon 53 Skipping. 15

iii. Claim 1's Specification Support Is Far Weaker than Other Claims Held Invalid for Lack of Enablement. 16

VIII. CONCLUSION 16

TABLE OF AUTHORITIES

Page(s)

CASES

AbbVie Deutschland GmbH & Co., KG v. Janseen Biotech, Inc.,
759 F.3d 1285 (Fed. Cir. 2014).....3, 6, 13

Amgen v. Sanofi,
872 F.3d 1367 (Fed. Cir. 2017)..... *passim*

Anderson v. Liberty Lobby, Inc.,
477 U.S. 242 (1986).....3

Ariad Pharm. Inc. v. Eli Lilly & Co.,
598 F.3d 1336 (Fed. Cir. 2010) (en banc).....3, 4, 7

Baxalta Inc. v. Genentech, Inc.,
579 F. Supp. 3d 595 (D. Del. 2022).....15

Baxalta Inc. v. Genentech, Inc.,
81 F.4th 1362 (Fed. Cir. 2023) 14, 15, 16

Berckeley Inv. Grp., Ltd. v. Colkitt,
455 F.3d 195 (3d Cir. 2006).....3

Enzo Biochem, Inc. v. Gen-Probe Inc.,
323 F.3d 956 (Fed. Cir. 2002).....6

Idenix Pharms. LLC v. Gilead Scis. Inc.,
941 F.3d 1149 (Fed. Cir. 2019)..... *passim*

MagSil Corp. v. Hitachi Global Storage Techs., Inc.,
687 F.3d 1377 (Fed. Cir. 2012).....14, 15

Martin v. Mayer,
823 F.2d 500 (Fed. Cir. 1987).....11, 12

MobileMedia Ideas, LLC v. Apple Inc.,
907 F. Supp. 2d 570 (D. Del. 2012).....13

Novartis Pharms. Corp. v. Accord Healthcare, Inc.,
38 F.4th 1013 (Fed. Cir. 2022) 10, 11

PPG Indus., Inc. v. Guardian Indus. Corp.,
75 F.3d 1558 (Fed. Cir. 1996).....3, 14

Procter & Gamble Co. v. Nabisco Brands, Inc.,
711 F. Supp. 759 (D. Del. 1989).....13

Purdue Pharma L.P. v. Iancu,
767 F. App'x 918 (Fed. Cir. 2019).....12

PureCircle USA Inc. v. SweeGen, Inc.,
2024 WL 20567 (Fed. Cir. Jan. 2, 2024).....5, 11

Regents of the Univ. of California v. Eli Lilly & Co.,
119 F.3d 1559 (Fed. Cir. 1997).....6, 7, 8

Regents of Univ. of Minnesota v. Gilead Scis., Inc.,
61 F.4th 1350 (Fed. Cir. 2023).....4, 12

Sherwin-Williams Co. v. PPG Indus., Inc.,
2021 WL 211497 (W.D. Pa. Jan. 21, 2021).....13

Synthes USA, LLC v. Spinal Kinectics, Inc.,
734 F.3d 1332 (Fed. Cir. 2013).....13

Tri-State Energy Sols., LLP v. KVAR Energy Sav. Inc.,
845 F. Supp. 2d 615 (D. Del. 2012).....3

TABLE OF ABBREVIATIONS

'007 Interference	Leiden University Medical Centre in Interference No. 106,007
'590 Patent	U.S. Patent No. 10,227,590
'827 Patent	U.S. Patent No. 10,266,827
'851 Patent	U.S. Patent No. 9,994,851
AO	Antisense Oligonucleotide
DMD	Duchene Muscular Dystrophy
Dowdy Opening	Opening Report of Steven F. Dowdy, Ph.D. dated September 7, 2023
Dowdy Rebuttal	Rebuttal Report of Steven F. Dowdy, Ph.D. dated October 11, 2023
Dowdy Suppl.	Supplemental Report of Steven F. Dowdy, Ph.D. dated August 14, 2024.
Dowdy Dep.	Deposition Transcript for Dr. Steven Dowdy, November 8, 2023
Dowdy Suppl. Dep.	Deposition Transcript for Dr. Steven Dowdy, dated September 12, 2024
Hasting Opening	Expert Report of Dr. Michele L. Hastings Regarding Invalidity of the UWA Patents dated September 8, 2023
Hasting Suppl.	Expert Report of Dr. Michele L. Hastings Regarding Invalidity of the UWA Patents dated July 3, 2024
Nelson Opening	Opening Expert Report of Stanley Nelson, M.D. dated September 6, 2023
Nippon Shinyaku	Nippon Shinyaku Co., Ltd
NSP	NS Pharma, Inc.
NS Patents	U.S. Patent Nos. 9,708,361, 10,385,092, 10,407,461, 10,487,106, 10,647,741, 10,662,217, 10,683,322

Patent Office	United States Patent and Trademark Office
PMO	Phosphorodiamidate Morpholino Oligomer
POSA	Person of Ordinary Skill in the Art
Sarepta Therapeutics	Sarepta Therapeutics, Inc.
SEQ ID NO. 195	AO with sequence "CUG AAG GUG UUC UUG UAC UUC AUC C" targeting positions +23+47 of the human dystrophin pre-mRNA
SOF	Conscise Statement of Facts in Support of NS's Motion for Summary Judgment
UWA	The University of Western Australia
UWA Patents	U.S. Patent Nos. 9,994,851, 10,227,590, and 10,266,827
VILTEPSO	VILTEPSO®
VYONDYS 53	VYONDYS 53®

I. INTRODUCTION

The Court should grant summary judgment in NS's favor and find that claim 1 of the '851 Patent—the only remaining asserted claim—is invalid. Claim 1 is broadly and functionally directed to a genus of AOs (molecules that include chains of nucleotides) that bind to and induce all levels of skipping of exon 53 of human dystrophin pre-mRNA and that can be used for the treatment of DMD. But the specification fails to describe test results from a single AO that falls within this very broadly claimed genus and provides no disclosure explaining how an AO's structure correlates to the claimed function of exon 53 skipping. The Federal Circuit has consistently held that these types of broad functional claims are not supported by such a narrow disclosure. Sarepta's "hot spot" theory—either alone or combination with other claim elements—cannot save the claim as a matter of a law because it directly contradicts indistinguishable Federal Circuit precedent. NS is entitled to a judgment of invalidity of claim 1 as a matter of law due to lack of written description.

NS is also entitled to summary judgment of invalidity of claim 1 due to a lack of enablement. The claim is broadly directed to a range of exon 53 skipping, from "very faint" to complete, yet there is no dispute that at most the specification only enables a POSA to make an AO with "very faint" exon skipping. Holding claim 1 enabled directly contradicts binding Federal Circuit and Supreme Court precedent where claims with far more support have been held invalid.

II. NATURE AND STAGE OF THE PROCEEDINGS

NS initiated this action on July 13, 2021 asserting claims against Sarepta for patent infringement of the NS Patents, declaratory judgment of invalidity of the UWA Patents, and breach of contract. D.I. 2. On January 28, 2022, Sarepta asserted counterclaims, including for infringement of the UWA Patents and declaratory judgment of invalidity for the NS Patents. D.I. 89. Fact and expert discovery are now closed and trial is set for December 13, 2024. Sarepta now

only asserts claim 1 of the '851 Patent against NS. D.I. 536-2

III. CONCISE STATEMENT OF FACTS

NS incorporates by reference its contemporaneously filed concise statement of facts.

IV. THE PARTIES, THE PATENT, AND THE PRODUCTS

NS and Sarepta both make products to treat DMD, a devastating form of muscular dystrophy caused by a lack of functional dystrophin—a protein that maintains the integrity of muscle fibers. D.I. 427-1 (Dowdy Opening) ¶69. DMD patients lack functional dystrophin because the dystrophin gene contains mutations that disrupt protein translation. *Id.* ¶71. Both NS and Sarepta make products with AOs (which include a chain of nucleotides) to "skip" the targeted exon, resulting in production of a truncated but still functional dystrophin protein. *Id.* ¶76. Sarepta is the exclusive licensee of the '851 Patent, and claim 1 is broadly directed to a functional genus of AOs that induce exon 53 skipping. SOF ¶8.

V. SUMMARY OF THE ARGUMENT

Claim 1 is invalid for lack of written description. Claim 1 is directed to a large functional genus of AOs that induce exon 53 skipping. Yet, the specification fails to disclose a single candidate meeting the claims' structural limitations, let alone a representative number of species. Sarepta's only hope for written description is to show disclosure of common structural features that would allow a POSA to distinguish AOs that induce exon 53 skipping from those that do not absent extensive, iterative trial-and-error experimentation, but such a common structural feature is absent from the specification.

Sarepta's litigation-driven theory that a so-called "hot spot" amounts to an adequate disclosure is expressly precluded by *Amgen v. Sanofi*, 872 F.3d 1367, 1378 (Fed. Cir. 2017), which rejected the indistinguishable "newly characterized antigen test" because patentees cannot show written description by just "describing something that is not the invention." Nor can the "hot spot"

along with the other claim limitations provide the common structural feature because such a combination of elements is not disclosed together in the specification.

In addition, this Court should hold that claim 1 is invalid due to lack of enablement. Claim 1 broadly covers all levels of exon 53 skipping, from very faint to complete exon 53 skipping, yet the specification only at most enables the lowest levels. POSAs are therefore left without sufficient guidance on how to "make and use other potential embodiments across the full scope of the claim." *PPG Indus., Inc. v. Guardian Indus. Corp.*, 75 F.3d 1558, 1564 (Fed. Cir. 1996).

VI. LEGAL STANDARD

Summary judgment is "'put up or shut up' time for the non-moving party." *Berckeley Inv. Grp., Ltd. v. Colkitt*, 455 F.3d 195, 201 (3d Cir. 2006). The movant's burden is "discharged by pointing out … that there is an absence of evidence supporting the non-moving party's case." *Tri-State Energy Sols., LLP v. KVAR Energy Sav. Inc.*, 845 F. Supp. 2d 615, 618 (D. Del. 2012). The non-movant "must rebut the motion with facts in the record and cannot rest solely on assertions made in the pleadings, legal memoranda, or oral argument." *Berckeley*, 455 F.3d at 201. "The mere existence of a scintilla of evidence in support of the plaintiff's position will be insufficient; there must be evidence on which the jury could reasonably find for the plaintiff." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 252 (1986).

VII. ARGUMENT

A. Claim 1 Is Invalid Due to Lack of Written Description.

A specification must "reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date." *Ariad Pharm. Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). "When a patent claims a genus using functional language to define a desired result, 'the specification must demonstrate that the applicant has made a generic invention that achieves the claimed result.'" *AbbVie Deutschland*

GmbH & Co., KG v. Janseen Biotech, Inc., 759 F.3d 1285, 1299 (Fed. Cir. 2014) (quoting *id.* at 1349). "[W]ritten description of **a broad genus** requires description not only of the outer limits of the genus but also of either **a representative number of members of the genus *or* structural features common to the members of the genus**, . . . with enough precision that a relevant artisan can visualize or recognize the members of the genus." *Regents of Univ. of Minnesota v. Gilead Scis., Inc.*, 61 F.4th 1350, 1356 (Fed. Cir. 2023) (citing *Ariad*, 598 F.3d at 1350-52 ("We have also held that functional claim language can meet the written description requirement when the art has **established a correlation between structure and function**.")) (emphasis added).

There can be no dispute that claim 1 is directed to a broad genus, yet the '851 Patent's specification fails to disclose a representative number of species. In fact, it discloses no tested species that fall within the scope of claim 1. Therefore, the only question is whether the specification identifies a common structural feature unique to the genus. As is explained herein, it does not, and Sarepta's "hot spot" theory fails as a matter of a law.

i. Claim 1 Is Directed to a Broad Genus.

Claim 1's functional genus is undisputedly very large. NS's expert, Dr. Michele Hastings, calculates candidate AOs that number at least over 30,000. SOF ¶5. Dr. Dowdy opines that [redacted] SOF ¶¶3, 6. But Dr. Dowdy does not dispute that [redacted] *Id.*; *see also* Ex. 7 (excerpted figures from expert reports). According to Dr. Dowdy, [redacted]. SOF ¶3.

Dr. Dowdy's opinions do not create an issue of undisputed fat. In *Idenix*, the Federal Circuit held where "the structural limitations still encompass **[at least] some number of**

thousands of compounds" in the patentee's **"best case," the claim's genus** is considered broad. *Idenix Pharms. LLC v. Gilead Scis. Inc.*, 941 F.3d 1149, 1157-58 (Fed. Cir. 2019) (crediting "meticulous[] calculat[ion]" of "more than 7,000 unique configurations"); *see also PureCircle USA Inc. v. SweeGen, Inc.*, 2024 WL 20567, at *3 (Fed. Cir. Jan. 2, 2024) (no written description if only "9,000 possible" candidates). Here, like in *Idenix* and *PureCircle*, even after crediting Dr. Dowdy's opinions there is no genuine dispute of fact that the claimed genus covers thousands of "unique configurations." SOF ¶¶3, 6; Ex. 7 (configurations from expert reports). Any disagreement over what is a species/subspecies and exactly how big the genus may be constitutes an immaterial fact, as the potential genus is undisputedly large by any measure.

ii. The Specification Fails to Disclose Any Representative Species Falling Within the Scope of the Claimed Broad Genus.

The specification describes, at best, only a single AO (SEQ ID NO. 195) that shares many, but not all, characteristics with the claimed AOs. SOF ¶11. SEQ ID NO. 195 is a 25-base AO, targets position +23+47, contains 25 consecutive bases of itself, and purportedly demonstrated "[v]ery faint skipping to 50 nM." *Id*. But SEQ ID NO. 195 has uracil bases, not the claimed thymine bases. *Id*. It also is not a morpholino AO as is required by the claim. *Id.* SEQ ID NO. 195 fails to meet claim 1's requirements and does not fall within the claimed genus. SOF ¶¶10-11.

In drafting claim 1, Sarepta started with SEQ ID NO. 195 and used structural limitations of AO length (20-31 bases) and overlap of base sequence (at least 12 bases of overlap and up to 25 bases of overlap with SEQ ID NO. 195) to extend its claim out well beyond that which it disclosed. However, the specification provides no written description support for this broad claim expansion. The specification does not disclose a single AO of 20, 22, 23, 26, 28, 29 or 30 bases in length that induces exon 53 skipping. SOF ¶12. Nor does the specification provide any data demonstrating that a 12-base AO could induce exon 53 skipping, let alone data demonstrating that

a 12-base portion of SEQ ID NO. 195 could induce exon 53 skipping. SOF ¶13.[1]

A comparison of SEQ ID NO. 195 and non-disclosed but potentially ensnared AO's, *i.e.*, NS's VILTEPSO and Sarepta's VYONDYS 53, demonstrates the overreach in the broadly claimed genus. As shown in the Figure from Dr. Hastings' Report at page 53 and reproduced in Ex. 7, a variation of SEQ ID NO. 195 is at one edge of the claimed genus. It is a 25-base AO with the maximum 25-base overlap with SEQ ID NO. 195 and purportedly demonstrates at most "very faint skipping." SOF ¶11. VILTEPSO is along the opposite edge; it is a much shorter 21-base AO with the minimum 12-base overlap with SEQ ID NO. 195 and an OH 5' cap end modification; it demonstrates relatively high levels of skipping. SOF ¶14. VYONDYS 53 also resides in the opposite corner. It has minimum overlap with SEQ ID NO. 195 and a TEG 5' cap end modification; VYONDYS 53 also demonstrates relatively high levels of skipping. SOF ¶15.

The sole "disclosed species only abide[s] in a corner of the genus," such that the patentee "has not described the genus sufficiently to show that the inventor invented, or had possession of, the genus. He only described a portion of it." *AbbVie*, 759 F.3d at 1300; *see also Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 967 (Fed. Cir. 2002) (specification's lack of "a sufficient number of species" meant that it failed to show "that the inventors had made a generic invention, *i.e.*, that they had **possession of the breadth of the genus**, as opposed to merely one or two such species"); *Regents of the Univ. of California v. Eli Lilly & Co.*, 119 F.3d 1559, 1567-68 (Fed. Cir. 1997) (claims to a broad genus of genetic material invalid because the specification disclosed only one particular species).

To demonstrate possession of a genus through "a representative number of species falling

[1] [redacted] SOF ¶13.

within the scope of the genus," the specification must "describ[e] a variety of materials constituting the genus." *Ariad*, 598 F.3d at 1350. "[M]erely drawing a fence around the outer limits of a purported genus is not an adequate substitute." *Id*. As the Federal Circuit has explained, "relatively few representative examples" do not suffice where "tens or hundreds of thousands of possible" structural candidates exist, and yet "the [accused product] is conspicuously absent." *Idenix*, 941 F.3d at 1165. Here, the specification lacks any disclosure of AOs with the same nucleobase sequences as either parties' allegedly patent-practicing product. SOF ¶16.

Claim 1's broad genus casts a very wide net encompassing at least tens of thousands, if not billions, of candidate AOs, including NS's VILTESPO. SOF ¶¶5, 14-16. Given the lack of representative species, to have sufficient written description for the broad genus, the specification would need to provide disclosure of "common structural features of the claimed [] genus" that "identify which [candidates] would function as claimed." *Juno*, 10 F.4th at 1336. Indeed, "a written description of an invention involving a chemical genus, like a description of a chemical species, 'requires a precise definition, such as by structure, formula, [or] chemical name,' of the claimed subject matter sufficient to distinguish it from other materials." *Regents of the Univ. of Cal. v. Eli Lilly & Co*., 119 F.3d 1559, 1568 (Fed. Cir. 1997) (quoting *Fiers v. Revel*, 984 F.2d 1164, 1171 (Fed. Cir. 1993)). As explained in the next section, such disclosure is missing from the specification, so claim 1 is invalid for lack of written description.

iii. There Are Insufficient Structural Features or Structural Correlation to the Claimed Exon 53-Skipping Function.

Claim 1 has several structural requirements, including that the AO be a "morpholino" with "20 to 31 bases comprising a base sequence that is 100% complementary to consecutive bases of a target region," a target region "within annealing site H53A(+23+47) and annealing site H53A(+39+69)," and a base sequence of "at least 12 consecutive bases of" SEQ ID NO: 195 "in

which uracil bases are thymine bases." But the specification does not disclose any correlation between structures disclosed in the claim and the claimed function of inducing exon 53 skipping. SOF ¶¶13, 21, 23-24. Nor does the specification even suggest that the target region would induce exon 53 skipping across the variable lengths claimed or various sequences (e.g. at least 12 bases of SEQ ID 195) or chemical variations described (e.g., base modifications and chemical moieties). *Id*. The specification lists only the exon 53-skipping results for eleven AOs, none of which fall within the claimed genus. *Id.* The specification provides **no discussion whatsoever** about why particular exon 53-directed AOs worked, what structural characteristics of those exon 53-directed AOs the inventors believed to be driving that exon 53-skipping function, or what future AOs they expected to also induce exon 53-skipping. *Id.*

In *Juno*, the claims were directed to a functional genus of all scFvs that bind to any target, while some dependent claims also identified the specific target. 10 F.4th at 1339-40. The specification "disclose[d] only two scFv examples and provide[d] no details regarding the characteristics, sequences, or structures that would allow" a POSA "to determine which scFvs will bind to which target." 10 F.4th at 1339. The patentee's expert testimony could not fill that void, as the expert failed to identify "characteristics of the exemplary scFvs that allow them to bind to particular targets or nucleotide sequences." *Id.* at 1337.

And in *Idenix* the specification's disclosure contained far more disclosure than is present in the '851 Patent's specification. It provided "lists or examples of supposedly effective nucleosides." 941 F.3d at 1164. But even that disclosure was insufficient without "explain[ing] what makes the [examples] effective, or why." *Id.* "As a result, a POSA is deprived of any meaningful guidance into what compounds beyond the examples and formulas, if any, would provide the same result." *Id.* The *Idenix* written description also lacked a disclosure of a single

claimed species, because "Idenix 'only came up with the methyl up fluoro down embodiment a year or so after the application was filed.'" *Id.* While the Federal Circuit recognized that such a failure may not be fatal to Idenix's claims if there had been sufficient disclosure of a genus via a structure-function correlation, "the specification provides no indication that any nucleosides outside of those disclosed in its formulas could be effective to treat HCV—much less any indication as to which of those undisclosed nucleosides would be effective." *Id.*

As in *Juno* and *Idenix*, here there is no discussion of **any particular common structural characteristic** that allows the AOs to induce exon 53 skipping. Further, similar to in *Idenix*, the combination of the failure to identify what makes the disclosed examples effective and the failure to disclose test results from a single species demonstrates claim 1 lacks written description.

iv. Sarepta's "Hot Spot" Recharacterization Cannot Save the Claim.

Dr. Dowdy recharacterizes the specification as disclosing a "hot spot" [redacted] and Dr. Dowdy opines "[redacted] SOF ¶17. NS disagrees that a POSA would view the '851 Patent as identifying a "hot spot," but even after crediting this testimony, the purported "hot spot" cannot establish any structure-function correlation for the AOs falling within the claimed genus.

1. The "Hot Spot" Test Is Materially Indistinguishable from *Amgen*'s Rejected "Newly Characterized Antigen" Test.

In *Amgen,* the district court instructed the jury that a patentee may satisfy written description via a correlation between structure and function "in the case of a claim to antibodies . . . by the disclosure of a newly characterized antigen [a molecule to which an antibody binds] by [the antigen's] structure, formula, chemical name, or physical properties." *Amgen Inc. v. Sanofi*, 872 F.3d 1367, 1378 (Fed. Cir. 2017). But the Federal Circuit held that this instruction was

improper, as it "flouts basic legal principles of the written description requirement." *Id.* "Section 112 requires a 'written description of the invention,'" but this antigen/binding site approach allows patentees to "describ[e] something that is not the invention" and is instead a molecule to which the claimed antibody binds. *Id*.

Sarepta argues for written description based on the region on the dystrophin pre-mRNA to which the AO candidates bind—the purported "hot spot"—that is materially indistinguishable from the newly characterized antigen in *Amgen*, as both are descriptions of something that is not the invention but rather something to which the purported invention binds. Here, the invention is an AO that induces exon 53 skipping, not the "hot spot" on the dystrophin pre-mRNA it targets.

Moreover, Dr. Dowdy [redacted] SOF ¶19. These examples and results are provided without explanation, let alone explanation as to whether and why AOs binding at or near the so-called "hot spot" induce exon 53 skipping. SOF ¶20. Such barebones listings of examples and results does not demonstrate structure-function correlation. *Idenix* 941 F.3d at 1165 ("In the absence of that guidance, the **listed examples and formulas *cannot provide* adequate written description** support for undisclosed [species].").

2. The "Hot Spot" Is Nothing More than a Starting Point for Experimentation.

Even if the specification directed POSAs to a "hot spot" region in which it would be obvious to experiment further to find sequences that have exon skipping activity, such a starting point does not demonstrate possession of a genus encompassing every species eventually found therein. "It is not enough that a claimed invention is 'an obvious variant of that which is disclosed in the specification.'" *Novartis Pharms. Corp. v. Accord Healthcare, Inc.*, 38 F.4th 1013, 1016

(Fed. Cir. 2022).

Many of the AOs that would target the "hot spot" are not in the claimed genus. SOF ¶21. And the specification nowhere teaches what structures distinguish AO candidates targeted to the purported "hot spot" that will induce exon 53 skipping from AO candidates targeted thereto that will not, leaving a POSA to experiment to find candidates within Sarepta's claimed genus. SOF ¶22. As Dr. Dowdy admits, [redacted]. *Id*. Thus, the record evidence establishes that binding at the "hot spot" provides no assurance that a given candidate will exhibit the claimed functionality. *Id.* Consequently, Dr. Dowdy's purported "hot spot" is nothing more than "[a] mere wish or plan for obtaining the claimed invention" and cannot provide written description for the vast genus. *Juno*, 10 F.4th at 1335 (citation and internal quotes omitted); *see also* SOF ¶¶21-24; *PureCircle*, 2024 WL 20567, at *3 ("The question before us is not whether [a POSA] presented with the [relevant] application would have been enabled to take those final steps, but whether the [relevant] application discloses the [variants] to him, specifically, as something appellants actually invented.").

3. The Specification Lacks Sufficient "Blaze Marks" to Guide a POSA to the "Hot Spot" in Combination with the Other Claim Elements.

Sarepta may argue it is not the "hot spot" alone but rather the "hot spot" plus the other claim elements that together provide the structural correlation. But such an argument cannot save the claim. The Federal Circuit has "described this inquiry as 'looking for blaze marks which single out particular trees' in a forest." *Idenix*, 941 F.3d at 1164; *see generally Martin v. Mayer,* 823 F.2d 500, 505 (Fed. Cir. 1987) (It is "not a question of whether one skilled in the art might be able to construct the patentee's device from the teachings of the disclosure . . . . Rather, it is a question whether the application necessarily discloses that particular device.")

To the extent the specification adequately discloses each of the claimed elements, it does so while disclosing many others, without any indication that the claimed elements—alone or in combination—cause the desired results of exon-53 skipping. SOF ¶24. The specification does not suggest making an AO with a base sequence of "at least 12 consecutive bases of" SEQ ID NO: 195 or with "20 to 31 bases comprising a base sequence that is 100% complementary to consecutive bases of a target region." *Id.* Nor does the specification describe the area between +23+69 of the exon 53 pre-mRNA as a "hot spot" or a region that is particularly amenable to exon skipping. It certainly does not state that any these features alone or in combination cause exon 53 skipping. *Id.* In sum, the specification's disclosure does not have the requisite "'blaze marks' that indicate or direct that a particular combination should be made 'rather than any of the many others which could also be made.'" *Purdue Pharma L.P. v. Iancu*, 767 F. App'x 918, 925 (Fed. Cir. 2019) (citing *In re Ruschig*, 379 F.2d 990, 995 (CCPA 1967)).

The Federal Circuit has recently and repeatedly declined to find a structure-function relationship in cases like this one where the claim's structural elements alone or in combination are nowhere specifically credited with causing the function. *See, e.g.*, *Regents*, 61 F.4th at 1358 (common structural features "must constitute the near-entirety of the structures being compared"; where disclosed "structures here are so extensive and varied [to] encompass[] a significantly larger genus than that claimed in the '830 patent, are not sufficiently common to that of claim 1 of the '830 patent to provide written description support."); *Idenix*, 941 F.3d at 1164 ("the specification provides no indication that any nucleosides outside of those disclosed in its formulas could be effective to treat HCV—much less any indication as to which of those undisclosed nucleosides would be effective.").

v. The Field of Exon 53 Skipping AOs Was and Remains Highly Unpredictable.

Finally, where, as here, "the art is unpredictable … disclosure of more species is necessary

to adequately show possession of the entire genus." *Synthes USA, LLC v. Spinal Kinectics, Inc.*, 734 F.3d 1332, 1344 (Fed. Cir. 2013). Likewise, it is "difficult to establish" the necessary "structure-function correlation" when the art is "highly unpredictable," leaving functional genus claims "inherently vulnerable to … lack of written description support." *AbbVie*, 759 F.3d at 1301

There should be no genuine dispute that the field of exon skipping is highly unpredictable, further necessitating a robust disclosure to satisfy the written description requirements. *See Synthes*, 734 F.3d at 1344. Sarepta made repeated representations to the Patent Office during the '851 Patent's prosecution and '007 Interference (an invalidity proceeding to which UWA was a party) affirming and relying on high levels of unpredictability in the field of exon 53-skipping AOs to obtain its patent and invalidate the patent of another party. *See* SOF ¶¶ 25-29.

These and Sarepta's other statements are, at the very least, party admissions. Because Sarepta made them during prosecution, the admissions are **binding**. *See, e.g.*, *Sherwin-Williams Co. v. PPG Indus., Inc.*, 2021 WL 211497, at *3 (W.D. Pa. Jan. 21, 2021); *see also Procter & Gamble Co. v. Nabisco Brands, Inc.*, 711 F. Supp. 759, 770 (D. Del. 1989). Given that Sarepta's arguments successfully induced the Patent Office to both issue the UWA Patents and invalidate another parties' exon 53-directed claims, judicial estoppel should preclude Sarepta from now contesting that the art was "highly unpredictable." *MobileMedia Ideas, LLC v. Apple Inc.*, 907 F. Supp. 2d 570, 623 (D. Del. 2012), *vacated in part*, 780 F.3d 1159 (Fed. Cir. 2015).

While the Court need not rely on the unpredictability of the field to hold claim 1 lacks written description at the summary judgment stage, the unpredictability evidence only further supports holding claim 1 invalid due to lack of written description.

B. Claim 1 Is Invalid Due to Lack of Enablement.

Claim 1 also is not enabled. The Federal Circuit "has refused to find broad generic claims enabled by specifications that demonstrate the enablement of **only one or a few embodiments**

and do not demonstrate with reasonable specificity how to make and use other potential embodiments **across the full scope of the claim."** *PPG Indus.,* 75 F.3d at 1564. To provide sufficient enablement, a specification must "describe the invention 'in such full, clear, concise, and exact terms as to enable any person skilled in the art' to 'make and use' the invention." *Amgen*, 598 U.S. at 612 (quoting 35 U.S.C. § 112(a)). "A claim is not enabled when, 'at the effective filing date of the patent, one of ordinary skill in the art could not practice their full scope without undue experimentation.'" *Idenix*, 941 F.3d at 1154 (quoting *Wyeth & Cordis Corp. v. Abbott Lab'ys,* 720 F.3d 1380, 1384 (Fed. Cir. 2013)). "Enablement is a question of law based on underlying factual findings." *Baxalta Inc. v. Genentech, Inc.*, 81 F.4th 1362, 1365 (Fed. Cir. 2023).

i. A Specification's Disclosure Must Be Commensurate in Scope with the Claim to Satisfy the Enablement Requirement.

An "enabling disclosure must 'be commensurate in scope with the claim.'" *Idenix*, 941 F.3d at 1160 (quoting *In re Hyatt*, 708 F.2d 712, 714 (Fed. Cir. 1983)). The Federal Circuit's cases make clear that where, as here, "a range is claimed, there must be reasonable enablement of the scope of the range." *See Amgen*, 987 F.3d at 1085; *see also MagSil Corp. v. Hitachi Global Storage Techs., Inc*., 687 F.3d 1377, 1384 (Fed. Cir. 2012) (claims not enabled where the patentee argued for a broad scope despite meager results achieved by the inventors).

The Federal Circuit's decision in *MagSil* is instructive. There, a patentee asserted infringement of a claim directed to a device used in computer hard drive disks that required a "change in resistance by at least 10%" between two electrodes on the device. 687 F.3d at 1379-80. The background section of the *MagSil* specification explained that past efforts to "produce an adequate level of change in the [] resistance" had achieved only a 2.7% change. *Id*. at 1379. The Federal Circuit held the claims were not enabled. In relevant part, the court observed that the patent specification "only disclose[d] enough information to achieve an 11.8% resistive change," even

though the claims were construed to cover resistive changes "from 10% up to infinity." *Id.* at 1383. The Federal Circuit further stated, "[t]he record contains no showing that the knowledge of [a skilled] artisan would permit, at the time of filing, achievement of the modern values above 600% without undue experimentation." *Id*. at 1384. "Indeed," the court observed," it had taken "nearly twelve years of experimentation to actually reach those [modern] values." *Id*.

ii. The '851 Patent's Specification at Most Enables Weak Exon 53 Skipping, but Claim 1 Is Broadly Directed to All Levels of Exon 53 Skipping.

Claim 1 is broadly directed to **inducing all levels of exon 53 skipping, from weak skipping to complete skipping**. SOF ¶8. Yet the closest the specification gets to disclosing a species within the scope of the claim, SEQ ID No. 195, induced only "very faint skipping." SOF ¶11. In other words, claim 1 covers a wide range of functionality in terms of exon 53 skipping, and that range is not represented by working examples.

Sarepta may argue this case is distinguishable from *MagSil* because in *MagSil* the claims were directed to an improvement on a known function, whereas here the claims are directed to a previously unknown function—a new way of inducing exon skipping. Federal Circuit Judge Dyk, sitting by designation, squarely rejected that argument in *Baxalta Inc. v. Genentech, Inc*., 579 F. Supp. 3d 595, 621 (D. Del. 2022), explaining "the court does not read *MagSil* to be cabined in such a way." There, Judge Dyk held claims directed to "[a]n isolated antibody or antibody fragment thereof that binds Factor IX or Factor IXa and increases the procoagulant activity of Factor IXa" invalid due to lack of enablement because their broad scope covered increasing procoagulant activity of Factor IXa at all levels, yet "[t]he highest amount that any antibody disclosed in the specification is estimated to have increased the procoagulant activity of Factor IXa is by 3.75%[.]" *Id.* The Federal Circuit affirmed. *See Baxalta Inc. v. Genentech, Inc*., 81 F.4th 1362 (Fed. Cir. 2023). Likewise, here to the extent there is a disclosure of exon 53 skipping within

the claimed genus in the specification, it is for skipping that is "very faint," yet the claims admittedly cover all levels of skipping. SOF ¶¶8, 11. Nor does the specification provide any guidance to a POSA as to how to make an AO that exhibits very strong exon 53 skipping as opposed to very weak skipping, let alone a very strong skipping AO within the claimed genus. SOF ¶¶17-24 (Dr. Dowdy agreeing [redacted]). Just as in *Baxalta*, claim 1 is invalid here for lack of enablement.

iii. Claim 1's Specification Support Is Far Weaker than Other Claims Held Invalid for Lack of Enablement.

Finally, compared to other claims courts have held non-enabled, claim 1 has markedly **less** guidance from its specification. In *Idenix*, the specification "contained data showing working examples of 2'-methyl-up nucleosides with [the claimed] efficacy against HCV," but those "**four examples** . . . [we]re insufficient to support enablement." *Idenix*, 941 F.3d at 1161. In *Baxalta*, "the written description disclose[d] the amino acid sequences for only **eleven antibodies** with the two claimed functions." *Baxalta*, 81 F.4th at 1366. And in *Amgen*, the specification "identified the amino acid sequences of **26 antibodies** that perform these two functions, and it depicted the three-dimensional structures of two of these 26 antibodies." 598 U.S. at 602-03.

Here, the specification undisputedly discloses no testing of any species falling within the scope of claim 1. There is no principled way to hold claim 1 enabled in in view of this Federal Circuit and Supreme Court precedent.

VIII. CONCLUSION

For the foregoing reasons, the Court should grant summary judgment in favor of NS and hold that claim 1 of the '851 Patent is invalid for lack of written description and enablement.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

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